

# Kirill Ryzhikov

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## EDUCATION

**Moscow State University** Moscow, Russia  
*Bachelor of Computational Mathematics and Cybernetics, department of Mathematical Statistics Aug. 2019 – July 2023*

## EXPERIENCE

**Research and Development engineer** March 2021 – Present  
*Tinkoff, AI Technology Center* Moscow, RU

- Creating platform for talking heads and deep-fake generation for commercial use cases.
- Implemented real-time video from speech generation algorithm for 2d photo-realistic and 3d generation.
- Using PyTorch, CUDA, Docker, Redis, FastAPI

**Junior ML Researcher** March 2020 – March 2021  
*Fintech Lab at MIPT associated with Tinkoff* Moscow, RU

- Performed research on talking heads generation for Russian speaker.
- Created Russian audio-visual dataset from different sources, using specially created pipeline.
- Developed MVP demo of talking heads generation from speech.
- Wrote the publication for AI conference.
- Used PyTorch, Docker

**ML/DL mentor** Dec 2020 – Present  
*Tinkoff.Generation* Moscow, RU

- Conducting lectures about DL basics in Computer Vision, Media generation.
- Checking homeworks, preparing quizzes.

## PUBLICATIONS

**63 All Russian science conference at MIPT** Moscow, RU, 2020

*Building facial expressions of a person from the recording of his speech*      *Diploma for best presentation in AI section*

- Created architecture for facial key points sequence generation from speech
- Researched application of Harmonic Convolutions in Speech Embedding task
- Researched application of AutoVC like architectures for speech splitting to style and content
- Used PyTorch, Docker

## PROJECTS

**PaletteAPI** | Python, FastAPI, OpenCV | GitHub Dec 2020

- Developed API for major colours palette extraction from image
- Implemented image quantization algorithms for real-time inference

**PixIt** | Python, TeleBot, OpenCV, Sklearn | GitHub Mar 2021

- Developed API for image pixelisation using major colours.
- Implemented telegram bot for testing and customer development

## TECHNICAL SKILLS

**Languages:** Python, C(C99), C++17

**DBMS:** MongoDB

**Frameworks:** PyTorch, Tensorflow, FastAPI, Flask, Telebot

**Developer Tools:** Git, Docker, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Vim, bash

**Libraries:** pandas, NumPy, Matplotlib, Pytorch-Lightning

## HACKATHONES

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**CROC-It-solution school** | *Android, Java, Firebase* |

2018

- 1-st place at social apps sections

**Sber.Hack** | *Andriod, Java, Python, Numpy* |

2018

- 2-nd place overall with project for detecting epilepsy attack Epi.Detect

**Acadoton** | *Andriod, Java, Python, Numpy, OpenCV, Arduino* |

2018

- 4-nd place overall with project of smart lock for easy flat sharing or rent

**Hack.Moscow** | *Andriod, Java, Python, Numpy* |

2018

- 2nd place in Healthcare track with Stroke.Detect app for strokes detection